UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

17 OCT 2011

Mr. Kenneth Landgraf
Acting Forest Supervisor
George Washington Plan Revision
George Washington & Jefferson National Forests
5162 Valleypointe Parkway
Roanoke, VA 24019

Re: Draft Environmental Impact Statement and the Draft Revised Land and Resource Management Plan George Washington National Forest, WV CEQ # 20110174

Dear Mr. Landgraf,

Consistent with our responsibilities and authorities under the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) reviewed the Draft Environmental Impact Statement and the Draft Revised Land and Resource Management Plan (DEIS) for the George Washington National Forest. The Forest Service (FS) proposes to revise the 1993 Land and Resource Plan. The proposal updates the management direction for the Forest's 1.1 million acres of land in Virginia and West Virginia by describing desired conditions, goals, objectives, suitable uses, standards and monitoring requirements. The DEIS describes seven alternatives including a "no action" alternative which would continue managing the land resources of the Forest under the 1993 Forest Plan as amended. Alternative G is the Preferred Alternative. EPA has rated the environmental impacts of the DEIS as EC (Environmental Concerns) and the adequacy of the impact statement as 2 (Insufficient Information). A description of our rating system can be found at: http://www.epa.gov/compliance/nepa/comments/ratings.html. In addition, based on our review, we offer the following comments for your consideration.

The George Washington National Forest (GWNF) is located entirely within the Chesapeake Bay watershed. There are eight federally listed threatened or endangered species that reside in the Forest. The Forest contains 1,171 miles of perennial streams. At least 30 communities in Virginia and West Virginia (over 1 million people) use water from the Forest for all or part of their drinking water. The Forest transportation network has about 1,800 miles of National Forest System Roads. The Forest has about 12,000 acres leased under federal oil and gas leasing procedures. Mineral rights on about 16% of the forest are privately owned.

Alternative G was developed after reviewing public comments and agency concerns. This alternative would actively restore and maintain vegetative compositional and structural conditions needed to provide for a variety of terrestrial and aquatic species in certain areas of the forest. It would substantially increase the objective for using prescribed fire in ecosystem

restoration and incorporate the use of wildfire for resource enhancement. Road network mileage would be reduced through closure or decommissioning of roads not needed for ecosystem stewardship, restoration or dispersed recreation use. Many of the closed roads would be used to supplement the trail system for non-motorized uses.

A clear comparison of alternatives should be provided in the Final EIS. The DEIS as prepared is difficult to review and understand. It appears that Alternative G balances impacts associated with Forest activities, however additional avoidance and minimization of environmental impacts should be considered. For example, Alternative G has more miles of new road construction and more acres of soil disturbance than Alternative E. Soil disturbance could lead to sedimentation which should be minimized to avoid impacts. While the overall goal of the preferred alternative seems beneficial for the Forest, there will be potential impacts to many resources, including water quality, terrestrial habitats, and listed species.

Oil and gas (O&G) leasing is one of several "significant" issues flagged by the DEIS for more detailed examination as part of the alternatives analysis process. Because there are no active gas wells currently in production within GWNF lands, and a relatively small acreage of GWNF lands are currently under lease for possible future oil or gas development, this issue has been afforded limited attention in previous versions of the Forest Plan. However, with the availability of newer technology which can provide access to geologic deposits formerly considered unrecoverable (e.g., the Marcellus Shale play), the DEIS examines the potential for increased oil and gas development activity and the resultant potential direct, indirect and cumulative impacts from development of these energy sources.

Chapter 2 of the DEIS presents several alternative approaches for managing lands of the GWNF, including a No Action Alternative. Common to all alternatives are presumptions that (1) certain Congressionally designated areas are legally unavailable for O&G leasing; (2) existing O&G leases occupying about 1% of the GWNF (12,412 acres) are valid and will be managed under existing terms and conditions; and (3) private mineral rights representing about 16% of the GWNF lands can occur regardless of which alternative is selected. The differences among alternatives, then, from an O&G development standpoint, are reflected in varying stipulations or constraints as to the amount, type or timing of development on federally owned mineral rights occupying about 84% of the Forest.

Given the current uncertainties concerning the environmental and public health impacts associated with the use of horizontal drilling, we support the FS preference for Alternative G and the Stipulation of No Horizontal Drilling included in the Preferred Alternative G (as well as in Alternative E). The alternative Horizontal Drilling Moratorium and Horizontal Drilling Operations Control Stipulations would provide limited temporary benefits, while reopening the process for considering permits to drill after May 1, 2013. We, therefore, consider these stipulations to be of lesser value as mitigation measures. While there is some current oversight and regulation of hydraulic fracturing, the use of this technique as applied to deep well horizontal drilling, has been less extensively practiced, and the resulting impacts are not as well understood. Extensive, ongoing studies of the impacts of these approaches and technologies should provide more clarity over time, and can provide a better basis for informed decision making in the future.

Chapter 3 provides an assessment of the potential environmental impacts from the alternatives retained for consideration. Oil and gas leasing impacts are the subject of a specific standalone Section D within Chapter 3. Chief among the resources used to project impacts from O&G development on the GWNF is an analysis of reasonably foreseeable development (RFD) prepared by the Bureau of Land Management and described in Appendix K. This analysis contains a useful basis for comparing O&G impacts among the alternatives. The RFD projects a baseline scenario totaling an initial surface disturbance of approximately 1,515 acres due to both vertical and horizontal well drilling and associated infrastructure development. This figure is based on an assumption that 70 vertical and 249 horizontal wells will be drilled, primarily to access available reserves of Marcellus Shale natural gas. So, despite the fact that Marcellus reserves underlie about 50% of the GWNF, or approximately 570,000 acres, only a small fraction of these acres would be affected by future O&G development in the 15 year time horizon used by the RFD analysis. However, the RFD analysis also indicates that full development of the resource in the GWNF is not a likely scenario due to a number of factors. Thus, except for the No Action Alternative, all other alternatives are expected to cause even less impacts than the baseline O&G development projection.

We find the RFD analysis to be a reasonable approach to considering future development and environmental impacts from oil and gas exploration and production, and for allowing for a comparison of alternative approaches to management of the GWNF lands. While some of the assumptions could be questioned (e.g., the number of miles of all pipelines, including smaller gathering lines, could be significantly higher than projected, and the number of wells per pad using horizontal drilling could be more than three), given the vagaries of the energy markets and uncertain future economic conditions, the RFD analysis appears to be an acceptable basis from which to evaluate potential future O&G impacts.

From a purely environmental impact viewpoint, and considering only the impacts due to future oil and gas development, it appears that Alternatives C and E would cause the least environmental impact, since they would either prohibit any horizontal drilling (Alternatives E and G) or make GWNF lands administratively unavailable for leasing (Alternative C). We recommend that the Final EIS identify the environmentally preferable alternative (it must be identified in any Record of Decision per 40 CFR Part 1505.2). Chapter 3 could also be improved in the Final EIS by providing tables comparing, where available, estimates of pollutant impact (e.g., emissions or watershed indicators) with current standards or guidelines, rather than referring the reader back to Chapter 2 for this information.

In the cumulative impacts analyses presented under various categories (soils, air quality, water resources, etc.), in most cases only the effects from current and projected future oil and gas development are included, and in some cases, only those activities within the GWNF are considered. It would be more appropriate in certain cases, e.g., air quality, to consider cumulative impacts including sources from beyond the boundaries of the GWNF, and to include sources other than simply oil and gas facilities, e.g., mining, highways, other industrial development. While in most cases these non-gas or oil sources and facilities admittedly represent a currently limited source of combined effects on environmental resources, their future aggregated impacts could become significant over time and should be included in the analyses.

Environmental Protection under Current Laws and Regulations – Chapter 3, on pages 3-307 through 3-310, discusses a number of "environmental protections" common to Federal oil and gas leasing in all of the alternatives. These include Federal and state laws, regulations and guidance documents. While most of these "protections" have been available for many years and have been applied to conventional O&G development, their application to unconventional, horizontal drilling activities is fairly limited. Also, the 2005 Energy Policy Act exempted certain aspects of oil and gas drilling and/or hydraulic fracturing from the requirements of certain Federal laws and regulations. These exemptions should be identified in the Final EIS. The applicable state laws and programs described for Virginia have, again, mainly been applied to conventional drilling using vertical wells. And while the State of West Virginia has in place a framework of laws, regulations and permit requirements, until recently these controls did not apply to deep well, horizontal drilling required to access most Marcellus gas reserves. The Final EIS should reference West Virginia's new requirements and any updates to other state or Federal regulations.

We recommend that the Forest Service coordinate with the US Fish and Wildlife Service on all federally listed species to ensure new information is considered, etc. We also recommend that the FEIS discuss the Chesapeake Bay Executive Order and Action Plan and how these priorities apply to the activities at the forest.

EPA looks forward to working with the Forest Service as they develop additional NEPA analysis for O&G leasing and other forest activities. EPA recommends opportunity for public involvement as conditions are developed for these actions. Thank you for the opportunity to offer comments on the Draft EIS. If you have any questions, please contact Barbara Okorn at (215)814-3330.

Sincerely,

Barbara Rudnick
NEPA Team Leader